

01-22-01

Receipt \$

CERTIFICATE OF MAILING "EXPRESS MAIL"

"Express Mail" Mailing Label No. EL 341553378 US

Date of Deposit: January 19, 2001

I hereby certify that this paper or fee is being deposited with the United States Postal Services with sufficient postage as "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to:

Assistant Commissioner for Patents, Attn: Office of Initial Patent Examination, Customer Service Center, Washington, D.C. 20231

Linda Faye

(Typed or Printed Name of Person Mailing Paper or Fee)

Linda Faye
(Signature of Person Mailing Paper or Fee)**RECEIVED**

APR 24 2001

PATENT

Attorney Docket No. 4497207

TC 1700

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)	
)	Group Art Unit: 2811
Stephen E. Savas et al.)	
)	
Application No. 09/692,255)	Examiner: Unassigned
)	
Filed: 10/19/2000)	
)	
For: Systems and Methods for Photoresist)	
Strip and Residue Treatment in)	
Integrated Circuit Manufacturing)	

RECEIVED
APR 19 2001
TC 200 MAIL ROOM**REQUEST FOR CORRECTED APPLICATION FILING RECEIPT**

Assistant Commissioner for Patents
ATTN: Office of Initial Patent Examination
Customer Service Center
Washington, D.C. 20231

Sir:

There are errors with respect to the following, which are omitted, or misspelled:

Error in	Correct data
Applicant(s)	Stephen E. Savas, Taiwan; John Zajac, San Jose, CA; Robert Guerra, Fremont, CA; Wolfgang Helle, Germany
Title	Systems and methods for photoresist strip and residue treatment in integrated circuit manufacturing

Enclosed is a copy of the *Filing Receipt* outlined in red to show the corrections that are needed.

A copy of the first page of the application as filed indicating that Stephen E. Savas, John Zajac, Robert Guerra and Wolfgang Helle are the named inventors, submitted to the U.S. Patent and Trademark Office on October 19, 2000, and the post card acknowledging receipt of same by the USPTO are attached.


Issuance of a corrected Filing Receipt is respectfully requested.

The Commissioner is authorized to charge the fee of \$25.00 to Deposit Account 23-2415 (14912.777). The Commissioner is authorized to charge any other fees associated with this communication to the above Deposit Account.

Respectfully submitted,

WILSON SONSINI GOODRICH & ROSATI

By:



Michael J. Murphy
Registration No. 37,404

650 Page Mill Road
Palo Alto, CA 94304-1050
(650) 493-9300

Date: January 19, 2001

RECEIVED

JAN - 9 2001

WILSON SONSINI,
GOODRICH & ROSATI



UNITED STATES PATENT AND TRADEMARK OFFICE

Page 1 of 3
14912-777
MM6

RECEIVED

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, DC 20230
APR 24 2001
WWW.USPTO.GOV

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/692,255	10/19/2000	2811	2280	14912.777	15	85	TC 1700

021971
WILSON SONSINI GOODRICH & ROSATI
650 PAGE MILL ROAD
PALO ALTO, CA 943041050

FILING RECEIPT



OC000000005646760

Date Mailed: 01/01/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Stephen E. Savas, Residence, NOT PROVIDED; TAIWAN; JOHN ZAJAC, SAN JOSE, CA; ROBERT GUERRA, FREMONT, CA; WOLFGANG HELLE, GERMANY

Continuing Data as Claimed by Applicant

THIS APPLN CLAIMS BENEFIT OF 60/160,554 10/20/1999

Foreign Applications

If Required, Foreign Filing License Granted 12/29/2000

Title

Systems and methods for photoresist strip and residue treatment integrated circuit manufacturing

Preliminary Class

257

Data entry by : ROBINSON, YOLANDA

Team : OIPE

Date: 01/01/2001





LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

RECEIVED

APR 24 2001

GRANTED

TC 1700

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 36 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15 (b).

PLEASE NOTE the following information about the Filing Receipt:

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 600 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:

Assistant Commissioner for Patents
Office of Initial Patent Examination
Customer Service Center
Washington, DC 20231



RECEIVED
APR 19 2001
2800 MAIL ROOM

RECEIVED

APR 24 2001

TC 1700



RECEIVED
PATENT
Attorney Docket No. 14912777
TC 1700 MAIL ROOM

**SYSTEMS AND METHODS FOR PHOTORESIST STRIP
AND RESIDUE TREATMENT IN
INTEGRATED CIRCUIT MANUFACTURING**

Inventors: Stephen E. Savas
John Zajac
Robert Guerra
Wolfgang Helle

RECEIVED

APR 24 2001

TC 1700

BACKGROUND OF THE INVENTION

1. Reference to Related Application

This application claims priority to U.S. provisional application no. 60/160,554 filed October 20, 1999. U.S. application no. 60/160,554 is hereby incorporated herein by
5 reference.


2. Field of the Invention

The field of this invention relates in general to semiconductor processing. More particularly, the field of the invention relates to systems and methods of stripping photoresist and removing residues from a semiconductor substrate.

10 **3. Background**

Future semiconductor manufacturing technologies are expected to have stringent requirements for a variety of specific critical photoresist and residue removal processes, due in part to reductions in component size, increasing circuit speeds, and greater sensitivity of devices to surface contamination. These processes include, but are not limited to: 1)
15 photoresist stripping following a high-dose ion-implantation (HDIS) process, 2) via cleaning, which means the removal of veils and residues following a via etch, particularly in the case where the dielectric layer through which the via is being formed is overlaying an aluminum or copper metallic layer, and 3) photoresist removal in the presence of a low-dielectric constant (low-k) material.

20 Current photoresist stripping methods are unable to cope with these new stringent requirements. For example, decreasing transistor sizes are making shallower and heavier doping levels necessary, which puts an additional burden on the photoresist mask used to protect the areas that will not be implanted. Another example has to do with vias, where

Title: SYSTEMS AND METHODS FOR PHOTORESIST STRIP AND RESIDUE TREATMENT IN IC MFG.		
Inventors/Applicant: SAVAS ET AL.		
Application Serial No.: NEW	Filing Date:	
Type Of Application: <input type="checkbox"/> Provisional <input type="checkbox"/> Original <input type="checkbox"/> CIP <input checked="" type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> CPA <input type="checkbox"/> PCT		
<input checked="" type="checkbox"/> Transmittal of Patent Application <input checked="" type="checkbox"/> Specification and Abstract 45 pages <input checked="" type="checkbox"/> Claims 11 pages <input checked="" type="checkbox"/> Drawings 15 pages <input type="checkbox"/> Missing Parts of Application Transmittal <input type="checkbox"/> Declaration/Oath <input type="checkbox"/> Combined Declaration/Power of Attorney <input type="checkbox"/> Power of Attorney <input type="checkbox"/> Power of Attorney by Assignee <input type="checkbox"/> Assignment/Form PTO 1595 <input type="checkbox"/> Small Entity Declaration <input type="checkbox"/> PCT International Application Request Form _____ pages <input type="checkbox"/> Specification _____ pages <input type="checkbox"/> Claims _____ pages <input type="checkbox"/> Abstract _____ pages <input type="checkbox"/> Drawings _____ pages	<input checked="" type="checkbox"/> Fee Transmittal <input checked="" type="checkbox"/> Filing Fee \$ _____ <input checked="" type="checkbox"/> Claims in excess \$ _____ <input checked="" type="checkbox"/> Independent claims in excess \$ _____ <input type="checkbox"/> Surcharge \$ _____ <input type="checkbox"/> Extension of time (____ mo.) <input type="checkbox"/> Request for Corrected Filing Receipt <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Form PTO-1449 with _____ references <input type="checkbox"/> Amendment/Response <input type="checkbox"/> Issue Fee <input type="checkbox"/> Formal Drawings	<input type="checkbox"/> Extension of time fee \$ _____ <input type="checkbox"/> Req-Corr Filing Receipt Fee \$ _____ <input type="checkbox"/> Issue fee/advance order \$ _____ <input type="checkbox"/> Other Fee \$ _____ <input type="checkbox"/> Chapter II Request/Fee Sheet <input type="checkbox"/> Response-Invitation to Correct <input type="checkbox"/> Article 34 <input type="checkbox"/> Article 19 <input type="checkbox"/> Response to Written Opinion
<input checked="" type="checkbox"/> Express Mail Certificate No. EL 341553302 US <input type="checkbox"/> First Class Mail <input checked="" type="checkbox"/> Authorization to Charge Deposit Account No. 23-2415	<input type="checkbox"/> Other: _____	
Attorney Docket No. 14912.777 Attorney: Michael J. MURPHY	Date Mailed. OCT. 19, 2000 <div style="text-align: right;"> jc932 U.S. PTO 09/692255  10/19/00 </div>	

Please stamp and return this postcard to confirm receipt of the above



10/20/00